

5 semiconductor die having a first area and a second area, the first area  
6 having a higher temperature than the second area, the thermal sensor  
7 positioned proximate the first area; and  
8 sense circuitry coupled to provide an output signal in response to the  
9 temperature signal, the sense circuitry providing the output signal when  
10 the temperature signal is in a predetermined relationship with a reference  
11 signal.

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1 21. (New) An apparatus for providing an indicator signal in response to a  
2 temperature of an integrated circuit, the apparatus being integrated within  
3 the integrated circuit and comprising:

4 a register that stores a value corresponding to a threshold  
5 temperature;

6 a thermal sensor that generates a temperature signal related to the  
7 temperature in accordance with the value;

8 a sense circuit coupled to the thermal sensor, the sense circuit  
9 providing the indicator signal when the temperature signal indicates that  
10 the temperature exceeds the threshold temperature.

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1 22. (New) An integrated circuit apparatus for providing a control signal  
2 in response to a temperature of the integrated circuit, comprising:

3 a current source providing a current;

4 a voltage reference circuit coupled to the current source to provide a  
5 reference voltage, the voltage reference circuit cooperating with the current  
6 source to maintain the reference voltage substantially independent of the  
7 temperature;

8 a thermal sensor coupled to the current source to provide a  
9 temperature signal in accordance with a programmable impedance, the  
10 temperature signal corresponding to the temperature;

11 a sense circuit coupled to receive the reference voltage and the  
12 temperature signal, the sense circuit providing the control signal when the  
13 temperature signal exceeds the reference voltage.